



MEMORANDUM

OFFICE OF ENGINEERING AND TECHNOLOGY

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for the American public.
— Mission Statement —*

Date: May 21, 1996

To: Secretary, FCC

From: Robert F. Cleveland, Office of Engineering & Technology

Subject: Ex Parte Submission
ET Docket 93-62
"Guidelines for Evaluating the Environmental Effects of Radiofrequency
Radiation"

Copies of the enclosed letter and attachments from Mr. Steve Brock, Assistant City Manager of Farmington Hills, Michigan, dated April 24, 1996, were sent to this office. It is requested by Mr. Brock that this letter, together with the attachments, be placed in the record of the above-referenced proceeding. Three copies are enclosed for your convenience.

Enclosures

No. of Copies rec'd
LIST ABOVE

0+2



City of Farmington Hills

31555 ELEVEN MILE ROAD, FARMINGTON HILLS, MICHIGAN 48336-1165

April 24, 1996

Federal Communications Commission
Secretary
1919 M Street NW
Washington, DC 20554

RECEIVED
APR 29 1996
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Dear Commissioners:

In May of 1995, the Farmington Hills, Michigan, City Council appointed an ad hoc committee to study the potential health effects of radio frequency (RF) emissions from cellular phone antennas. A list of the members, ranging from ordinary citizens to representatives of the cellular communications industry, is included.

The committee met five times and was very thorough in its research and deliberation on the health effect issue. A copy of the minutes of these meetings and a summary of all of the motions that were approved by the committee is attached and is the "report" of the committee.

The Farmington Hills City Council has received the report and referred the land use matters to the Planning Commission for their review and ultimate ordinance formulation. The procedural matters have been referred to appropriate staff for process development.

On behalf of the ad hoc committee and the Farmington Hills City Council, I ask that this report be entered into the FCC record and considered in the deliberations on rule promulgation. Questions or comments can be directed to me at (810) 473-9502. Thank you.

Sincerely,

Steve Brock
Assistant City Manager

Enclosures

RECEIVED

APR 29 1996

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CELLULAR ANTENNA STUDY COMMITTEE

MISSION STATEMENT

A Cellular Tower and Antenna Study Committee is hereby established for the purpose of determining levels of electromagnetic fields generated by existing cellular facilities within the City, evaluating the scientific and technical studies regarding the health and safety impacts of these fields and formulating recommendations to City Council regarding the future regulation of cellular towers and antennae including drafting zoning or other ordinance amendments which will be consistent with the above and provide regulations for the creation, location, erection, maintenance, monitoring and standards for reporting and review of use.

CELLULAR ANTENNA STUDY COMMITTEE ROSTER

Residents

Dr. Debra Rowe
Shari Schwartz
Jan Goldfarb
Alan Vosko
Robert Bruckner (COHA)
Marcia VanCreveld (COHA)
Gladys Sanford
Ken Bills

Cellular Companies

Ameritech Cellular Services:
Richard Sundquist
Kyle Dilley

Cellular One:
Mike Lord
Amy Accettura

Farmington Public Schools

Kathleen McAdaragh-Hain

Scientific Community

Dr. Valdis Liepa, University of Michigan
Dr. Abraham Liboff, Oakland University

City Representatives

Sgt. Joe Rebh, Police Department
Pete Baldwin, Deputy Fire Chief
Dale Countegan, Director of Planning & Community Development
Steve Brock, Assistant City Manager (non-voting)

Cellular Antenna Study Committee Meeting of June 22, 1995

MOTION by Vosko, support by Bruckner, that three doctors (Liboff, Liepa and Kallenbach) along with Ken Bills, Debra Rowe, Jan Goldfarb and a representative of both Ameritech and Cellular One be appointed to a Technical Review Subcommittee.

Unanimous.

MOTION by Rowe, support by Bruckner, to form a monitoring subcommittee comprised of Dr. Liepa, Alan Bosco, representatives of each of the cellular companies, Ken Bills and Bill Costick as an ex officio member.

Unanimous.

Cellular Antenna Study Committee Meeting of August 31, 1995

MOTION by Vosko, support by Bills, that the Committee appoint Mike Lord to serve as the chair of the Monitoring Subcommittee (Bills, Costick, Dilley, Liepa, Lord, Vosko).

Unanimous.

MOTION by Rowe, support by Bruckner, that the Monitoring Subcommittee not only should take preliminary readings on September 19, 1995, but also set up a system for doing an array of monitoring to which the cellular phone companies will be blind following standard scientific methods and report back to this committee with the results of the levels being recorded.

Unanimous.

MOTION by Bruckner, support by Vosko, to table the discussion of other municipal ordinances/regulations.

Unanimous.

MOTION by Bruckner, support by Vosko, to table the discussion of possible regulations and siting requirements.

Unanimous.

MOTION by Rowe, support by Vosko, that the following statement be accepted by the Ad Hoc Cellular Tower Study Committee as its working mission statement:

"A Cellular Tower and Antennae Study Committee is hereby established for the purpose of determining levels of electromagnetic fields generated by existing cellular facilities within the City, evaluating the scientific and technical studies regarding the health and safety impacts of

these fields and formulating recommendations to City Council regarding the future regulation of cellular towers and antennae including drafting zoning or other ordinance amendments which will be consistent with the above and provide regulations for the creation, location, erection, maintenance, monitoring and standards for reporting and review of use."

Unanimous.

Cellular Antenna Study Committee Meeting of November 8, 1995

MOTION by Rowe, support by Vosko, that the Cellular Tower Study Committee hereby acknowledges receipt of the report on the five individual testing sites by the Monitoring Subcommittee entitled *Measurements of Electromagnetic Energy Levels in Close Proximity To Cellular Telephone Towers*; and

FURTHER, that additional random blind testing will be conducted by Dr. Valdis Liepa to increase the validity of the measurements in the report.

Unanimous.

MOTION by Rowe, support by Vosko, that the discussions on the municipal ordinances/regulations and the discussion of possible regulations and siting requirements be placed as the first items for discussion on the committee's agenda at their next meeting.

Unanimous.

MOTION by Rowe, support by Vosko, that Cellular Tower Study reconsider the request of Nextel Communications at this time which was postponed at the beginning of this meeting.

Unanimous.

MOTION by Vosko, support by Sundquist, that the Cellular Tower Study Committee hereby acknowledges the presentation by Nextel Communications regarding its proposal to co-locate on the Farmington Hills DPW site off Halsted Road; and

FURTHER, this committee acknowledges that the DPW site does not come under the context of the moratorium as defined and

FURTHER, this committee does not choose to take a position on the Nextel Communications proposal because it is out of the area which they are currently studying and hereby recommends Nextel Communications take its proposal directly to the City Council for their determination.

Unanimous.

Cellular Antenna Study Committee Meeting of November 29, 1995

MOTION by Goldfarb, support by Bruckner, that the Cellular Tower Study Committee hereby recommends to the City Council that cellular sites (including towers and antennae) shall have a minimum setback of 750 feet from all residential buildings and schools.

Motion carried 9-7.

MOTION by Rowe, support by Vosko, that the Cellular Tower Study Committee hereby recommends to the City Council that the Planning Commission be directed to study the feasibility of broadening the location of cellular towers into other districts that currently do not allow them which would include: ES, Expressway Service; IRO, Industrial, Research, Office; OS-3, Office Service and B-2, Community Business District.

Unanimous.

MOTION by Vosko, support by Rowe, that the Cellular Tower Study Committee hereby recommends to the City Council that a 750 foot radius notification process be required for all special approvals/conditions before the Planning Commission for cellular towers.

Motion carried 13-3.

MOTION by Rowe, support by Liboff, that the Cellular Tower Study Committee hereby recommends to the City Council that periodic monitoring by an independent expert selected by the City to do a random/blind basis after submission of complete site specifications including: outputs, channels, antennae type, power, maximum gain, ERP and frequency per face; and

FURTHER RESOLVES that a cellular source of nonionizing electromagnetic radiation (NIER), when combined with existing sources of NIER, shall not expose the general public to ambient radiation exceeding an equivalent plane wave power density of 10 microwatts per squared centimeter at the cellular frequency range.

Motion carried 10-6.

MOTION by Rowe, support by Goldfarb, that the Cellular Tower Study Committee hereby recommends to the City Council that it consider extending the moratorium until the findings of this committee are complete and the committee can make its final recommendations to the City Council.

Unanimous.

Cellular Antenna Study Committee Meeting of January 17, 1996

MOTION by Vosko, support by Schwartz, that the Cellular Tower Study Committee hereby recommends to the City Council that all cellular company permits be renewable on a yearly basis and to be automatically renewed unless the ambient field exceeds 10 microwatts per square centimeter at the cellular frequency range of future research indicates there is a verifiable threat to the public health, safety and welfare. In this event, the Planning Commission shall re-evaluate the cellular site prior to renewal of its permit.

Motion carried 10-4 (Accettura, Dilley, Lord & Sundquist opposed).

MOTION by Vosko, support by VanCreveld, that the Cellular Tower Study Committee hereby recommends to the City Council that co-location of towers be encouraged to reduce the number of cell sites and have the City review the possibility of erecting a combined use tower for rent by the cellular companies.

Unanimous.

MOTION by Vosko, support by Liboff, that the Cellular Tower Study Committee hereby recommends to the City Council that the site evaluation fees be paid by the company which feels shall cover the cost of monitoring and application processing. The regularity of which shall be one (1) inspection per company on an annual basis.

Motion carried 9-4-1 (Accettura, Dilley, Lord and Sundquist opposed; Dr. Liepa abstained).

MOTION by Vosko, support by Liboff, that the Cellular Tower Study Committee hereby recommends to the City Council that the company seeking approval shall have an agreement with the City to indemnify the City in case of a lawsuit or other action that may be filed against the City claiming damages with regard to health due to the use or location of the cell site.

Motion carried 10-4 (Accettura, Dilley, Lord and Sundquist opposed).

MOTION by Vosko, support by Schwartz, that the Cellular Tower Study Committee hereby recommends to the City Council that any sites no longer required shall be removed within 6 months at the expense of the owner of the facility.

Motion carried 11-3 (Dilley, Sundquist and VanCreveld opposed).

MOTION by Vosko, support by Rowe, that the Cellular Tower Study Committee hereby recommends to the City Council that the base of the tower and accessory buildings must be compatible with the character of the area in which it is placed in accordance with the Zoning and Planning Commission guidelines to provide enhanced screening standards to buffer the cell sites from residences.

Unanimous.

MOTION by Vosko, support by VanCreveld, that the Cellular Tower Study Committee hereby recommends to the City Council that under no circumstances is the placement or use of cellular equipment to be considered a matter of right. All towers and antennas shall be subject to special approval from the Planning Commission in all zoning districts.

Motion carried 8-5-1 (Accettura, Countegan, Dilley, Lord and Sundquist opposed).

MOTION by Vosko, support by Liboff, that the Cellular Tower Study Committee hereby recommends to the City Council that an accessory building or service structure shall be located immediately next to the tower/antennae. These structures shall conform to the building codes and zoning restrictions.

Unanimous.

MOTION by Vosko, support by Goldfarb, that the Cellular Tower Study Committee hereby recommends to the City Council that all cell sites shall require a public hearing with notice to all schools, residents within a 500 foot radius, all neighborhood associations within one mile, the Council of Homeowners Association and Ad Hoc Cellular Tower Study Committee members.

Motion carried 10-4 (Accettura, Dilley, Lord and Sundquist opposed).

MOTION by Goldfarb, support by VanCreveld, that the Cellular Tower Study Committee recommend to City Council that the committee be considered a standing committee to remain in effect and that the members of the committee be informed of the new cellular site locations, any changes in the current site, and to allow the committee to meet when necessary.

Motion carried 9-4 (1 abstention).

MOTION by Vosko, support by VanCreveld, to compile the mission statement, copies of all meeting minutes and motions of the Cellular Tower Study Committee to be submitted to City Council as the committee's final report for their review and consideration.

Motion carried 10-4 (Accettura, Dilley, Lord and Sundquist opposed).

MINUTES
CELLULAR TOWER STUDY COMMITTEE

THURSDAY, JUNE 22, 1995

The meeting was convened by Assistant City Manager Steve Brock, as this was the first being and there being an absence of a Chair. All members were in attendance except Dr. Lee Kallenbach and James Bridewater of the FCC. Dale Countegan, Director of Planning and Community Development, arrived a little late. Sgt. Joe Rebh attended for Inspector Murphy; and Bob McSweeney for Tim Lord. Brief introductions of all in attendance followed.

The issue of selecting a chairman or someone to lead the committee was then discussed. Alan Vosko moved, and Bob Bruckner supported, a motion to appoint Steve Brock as facilitator of the committee's meetings. The vote was unanimous.

Richard Sundquist of Cross Wrock, representing Ameritech, provided a brief update on his perspective on how this issue arose and why the committee was established. The discussion revolved around the site selection in the Fourteen Mile and Drake area, both in the Township of West Bloomfield and the City of Farmington Hills. Mr. Sundquist went into some detail about the proposal for the Faith Covenant Church and how they arrived at this location.

Alan Vosko indicated that it is his belief that the committee was not formed to study just one tower in one location, but the issue in general. Mr. Vosko indicated that Farmington Hills has many towers already and he believes this committee should be studying the effect of the towers, where the towers should be, if there needs to be towers at all given

evolving technologies, address zoning ordinance issues and other ordinance issues, monitoring of the sites, and sort out just what is what with regard to the cellular tower industry.

Dr. Abe Liboff questioned how much power is being emitted from the towers. Kyle Dilley of Ameritech responded that this would vary but at a particular site 60 watts per tower with 25 per microcell was the total.

Shari Schwartz indicated her concerns were schools and children and the proximity of towers to schools and residential areas. She really wants to have it proven that these towers are safe.

Steve Brock then asked if one of the cellular companies could give a brief explanation on exactly how the cellular phone system functions. Kyle Dilley delivered a simple explanation.

Alan Vosko then asked, although cellular towers may emit low power, it's the frequency that is really at issue and it was indicated that cellular towers operate in the 824-896 megahertz frequency range.

There are also several other newly evolving personal communication technologies, including SMR and PCS.

Ken Bills spoke about the decreases in power as distance grows and indicated an equation of a decrease by the square of the distance. He also spoke of radios and appliances and everyday electrical sources that emit both microwave and radio frequencies and that the question really is the level of power at certain distances.

Dr. Debra Rowe agreed and indicated that was a good point and referenced that at this point, the state of the research is really a mid point and there is no thorough or complete information one way or the other. All literature reviews indicate that more study is needed and that athermal, which is really to Ms. Rowe the important issue, research is just beginning. The federal government is beginning to appropriate funds for study in this area and it may be some time before conclusive data is developed.

Shari Schwartz mentioned two names of doctors who are studying in this field; Dr. Agae and Dr. Motkin.

Marcia VanCreveld spoke to the monitoring issue and that we don't know what power levels are being emitted from these towers and that it could be very costly to test power emission levels.

Discussion then turned to agenda item II which was a review of the committee's purpose. Dr. Liboff inquired of the cellular companies if more towers really needed in light of today's technology and future technology and, if so, how many? Richard Sundquist reiterated that there are two cellular phone companies, but also other personal communication companies coming on line that may need towers, perhaps not as large as current towers, but in any event, antennas. The need for additional towers is based on use and demand and somewhat on topography.

A draft of a mission statement was offered for consideration by the committee.

Bob McSweeney of Cellular One added that they too may have the need for a few additional towers in the Farmington Hills area based on user demand.

Ken Bills indicated that he believes from his understanding of what the City Council discussed was that this group should sort out all the aspects of cellular towers and report back to the City Council, perhaps with some recommendations on what should or could be done within the confines of the zoning ordinance or other ordinances.

Mr. Vosko believes the committee should be looking at the relevant information available on the topic and draft zoning or other ordinance amendments which will provide regulations for the creation, location, erection, maintenance, monitoring and standards for reporting and review of use of cellular towers in this community.

Dr. Rowe said that monitoring the measurement of the emissions is crucial in addition to two other pieces of information. One, research, both now and continuing on a periodic basis in the future so if and when technologies change, the City and its residents can be up to speed on those changes. Two, a review and continuing monitoring of what other levels of government are doing with regard to usurping local authority in dealing with cellular towers.

Discussion then led to use of the actual City Council resolution and a paragraph from it which indicated the responsibilities of this committee.

A Cellular Tower and Antennae Study Committee is hereby established for the purpose of determining levels of electromagnetic fields generated by existing cellular facilities within the City, evaluating the scientific and technical studies regarding the health and safety impacts of these frequencies and formulating recommendations to City Council regarding the future regulation of cellular towers and antennae [including drafting zoning or other ordinance amendments which will be consistent with the above and provide regulations for the creation, location, erection, maintenance, monitoring and standards for reporting and review of use]. (added by committee)

Discussion ensued on the use of this paragraph with minor modifications as the committee's mission statement. It was decided that with several amendments, some provided

by Dr. Rowe and others provided by Mr. Vosko, that this paragraph will be re-submitted at the next meeting for consideration by the committee.

Ken Bills then indicated there are two studies available that he is aware of from the National Council on Radiation, Protection and Measurements. He asked that the committee secure copies of these and distribute them to the entire group. One is on the biological effects of RF (radio frequency) radiation. The other is on a practical guide to human exposure to RF radiation. He added that he believes it is RF that is the issue here and not EMF (electromagnetic field).

Ms. Schwartz indicated that she believes other communication methods involving radio frequency or microwaves should also be included in the study.

Mr. Sundquist indicated that Ameritech has no objection to measuring output at cellular towers, but is concerned about a continuous measurement methodology, but would accept some system of random testing. Cellular One indicated a similar position.

Jan Goldfarb noted that at several tower locations, both Ameritech and Cellular One are on the same tower and there is an issue as to which is emitting how much energy.

Dr. Liboff indicated that there is some basis for measurement and monitoring of emission fields and that he believes that some system of measurement could be established that would provide accurate and meaningful data.

Mr. Bills indicated again that distance is the key factor and perhaps a certain number of locations around the circumference of a tower would be appropriate. Dr. Liboff added that cellular tower antennas are designed to emit energy in certain directions and that the cellular companies know which direction these energy flows are going. It was determined

that this matter will be discussed further under agenda item IV, discussion of monitoring/measuring tower emissions methodology.

The next item on the agenda is discussion of literature submission/dissemination/review process. Dr. Rowe indicated that she believes that anyone who has any relevant information should submit it to Steve Brock in the City Manager's office for dissemination to the entire committee.

Mr. Vosko questioned whether the committee can agree on which information is relevant and should be read by the committee as there are volumes of data available.

Dr. Liboff indicated that the issue here is really radio frequency, RF, and not ELF, and that there are a number of reports dealing with just RF that the committee could focus.

Mr. Sundquist indicated that he has several pieces of information that deal with primarily radio frequency and that these should also be shared with the City Council along with any report or study that is provided to them.

Mr. Bills shared a comparison of cellular towers to yard lights in that there is not an additive effect to cellular towers just like there isn't if you have a number of yard lights throughout a neighborhood. The light is most intense near the source, but dissipates quickly from there.

Mr. Vosko referenced a question and answer article that the FCC did in 1989 and that there was a 2½ page bibliography and further questioned how the committee is going to sort out what is appropriate and necessary to read and what won't be of interest to this committee.

Dr. Liboff indicated that the technology and research is constantly changing. Current information is really all that is relevant. There are a number of reports that assume thermal (heating) is all that matters, but this probably isn't the case. It's also a matter of what you believe. In the scientific community, legitimacy is a result determined by repetitive testing receiving a same or similar result from each test.

Dr. Liepa indicated the ANSI, Association of National Standards Institute, has determined a level of acceptability.

Dr. Rowe indicated there are also standards in other countries including Russia. The ANSI standards do not account for a level of acceptability for a thermal effect. She's not worried about the thermal effects. Again, it is the non thermal effect that is the focus. She reiterated that we are in the middle of many ongoing studies and that we just don't know what the results may be yet. She believes it is important to digest all the information that is currently available and try to move to a consensus on what to do given what we know.

Ms. Gladys Sanford asked the cellular companies about the concentration of towers in the Ten Mile and Middlebelt area and also around East Middle School and indicated she is going to research the incidents of cancer rate in that area. She asked the cellular companies if they believe their towers are dangerous. It is generally assumed that the cellular companies would say they are not.

Mr. Sundquist indicated that Microwave News is an excellent resource on the topic. He added that there are legal aspects to any ordinances or laws that may be enacted and that the concept of moratoriums is not new. He added that there are court opinions on this point

and that he will provide those to the committee. He also added that these matters should be kept in mind by the committee as they proceed.

Mr. Vosko responded that he does not believe the committee should be encumbered by the legal aspects - that's the City Council's job. He believes the committee is charged with finding out what's what, looking at all the information fairly, and making recommendations to the council on what the committee believes the council should do in the best interest of the citizens.

Mr. Bills indicated that people are bombarded constantly with all sorts of microwaves, radio frequency waves, including the Channel 56 tower, the Channel 50 tower in Southfield, and ham radio operated systems throughout the community. He indicated that you could measure radio frequency rates anywhere in the community and probably find some and perhaps have a difficult time attributing these waves to a source.

Dr. Liboff added that the courts do consider health issues very seriously, especially if they begin to affect property values.

Bill Costick offered that we are presented with a unique opportunity to have both the citizen and corporate perspectives represented on this committee, the work of the committee is very important and that the committee should take full advantage of the opportunity presented.

Marcia VanCreveld then spoke from a real estate agent's perspective noting that parts of the community are beautifully landscaped, nice looking, green and lush, and others aren't as nice, and that this has an impact on property values and that towers detract from the ambience of a community.

Dr. Rowe brought the focus back to the agenda item at hand and indicated that perhaps a sub group could be formed to review information and utilize a research librarian, giving key words to find articles that may have an impact on the committee's focus.

Mr. Sundquist responding to Ms. VanCreveld's comments indicated he too once sold real estate and that there are disclosure statement laws in Michigan that speak to many issues, but not cellular towers. He thought it would be bad and nothing could reduce property values quicker than prematurely making conclusions that may not be based in fact. Marcia VanCreveld added that perhaps a disclosure of this sort is not necessary in Michigan, but she believes it may be in other states.

Ms. Schwartz voiced her concern that cellular phones serve primarily non-residents and the corporations in our community at the possible expense of the residents.

Mr. Vosko suggested that a technical review subcommittee be formed to ascertain what scientific articles the entire committee should be reading in order to reduce the volume of reading that could be necessary.

Sandra McKelly added that not all the readings are technical in nature and it may be too much to pile on a few people. She also thought that instead of City Hall mailing out all the information, committee members could stop in periodically to City Hall and see what information might be available and save on mailing.

Dr. Rowe reiterated that she believes all the committee people should see all the information, but didn't disagree that a subcommittee to determine with a wide scope what is most appropriate.

Mr. Sundquist added that another good periodical is Network News and that the committee could consider having this information disseminated as well.

Dr. Liboff offered that he would not mind along with a few others, including Dr. Liepa, to sort out what's what with regard to the research and provide this list to the entire committee so that only current, pertinent information would be part of the reading list.

MOTION by Bosco, support by Bruckner, that three doctors (Liboff, Liepa and Kallenbach) along with Ken Bills, Debra Rowe, Jan Goldfarb and a representative of both Ameritech and Cellular One be appointed to a Technical Review Subcommittee.

Unanimous.

As an aside, Dr. Rowe added that there are several governmental agencies that are also developing text on this topic and that should be included in the review.

Item #4 - Discussion of Monitoring/Measuring Tower Emissions Methodology

Mr. Bills began discussion by indicating that the Committee needs to go out and find an appropriate and proven methodology for measuring the emissions of cellular towers.

Mr. Liepa indicated that there is a standard way to approach monitoring and measurement. Appropriate meters and a power source to run the meters are needed.

Mr. Bills asked where the appropriate location is to measure around a tower. Dr. Rowe indicated that it is one thing to establish the objective of this measuring.

Dr. Liboff offered that there is a rationale as to how energy is emitted from each tower, and the maximum loads being emitted can be measured.

Mr. Bosco inquired about the sites and what is included in each one. The cellular companies agreed to have a tour of the site where they are both located (Mercy Center) and to provide the emission pattern for the towers in our community.

Dr. Liboff then asked if there was any way to keep the power up off the ground but still render the phones effective. Mr. Kyle responded that it's being looked at. The FCC regulates this.

Dr. Rowe reiterated that we still need to establish an objective for measuring emissions. Discussion ensued on the types of equipment necessary and the power sources as well as who could do the testing.

MOTION by Rowe, support by Bruckner, to form a monitoring subcommittee comprised of Dr. Liepa, Alan Bosco, representatives of each of the cellular companies, Ken Bills and Bill Costick as an *ex officio* member. Unanimous

Other Business

Richard Sundquist reiterated an invitation, perhaps in late July, for the Committee visit the Mercy cellular site.

Amy Accettura, Cellular One, inquired as to the criteria by which the doctors on the Committee were selected. It was indicated that they were determined to be experts in the field by the various residents on the Committee. It was further pointed out that anyone who has any information on this topic will have an opportunity to speak in front of the entire Committee including any doctors or professionals that either the cellular companies wish to invite.

Jan Goldfarb asked that the packet originally delivered to the City Council also be sent to the Committee members. This will be done.

Dr. Liboff suggested that Steve Brock contact Steve Cleary who is doing the most focused research in this frequency range and that his information somehow be presented to the Committee either in person or via another vehicle.

Next meeting tentatively scheduled for Thursday, August 31, at 7:30 p.m. at the same location.

Meeting adjourned at approximately 9:50 p.m.

Respectfully submitted,

Steve Brock
Asst. City Manager/Secretary/Facilitator
of Cellular Tower Committee

APPROVED

MINUTES
CITY OF FARMINGTON HILLS
AD HOC CELLULAR TOWER STUDY COMMITTEE
THURSDAY, AUGUST 31, 1995

The meeting of the Ad Hoc Cellular Tower Study Committee was called to order by Assistant City Manager Brock at 7:10 p.m.

PRESENT:

Residents:	Ken Bills, Robert Bruckner, Jan Goldfarb, Wally Kurzeja, Dr. Debra Rowe, Gladys Sanford, Marcia VanCreveld, Alan Vosko and Sandra McKelly.
Cellular Companies:	Amy Accettura, Kyle Dilley, Mike Lord and Richard Sundquist.
Scientific Community:	Dr. Abraham Liboff and Dr. Valdis Liepa.
City Representatives:	Deputy Fire Chief Baldwin, Director Dale Countegan and Assistant City Manager Steve Brock.
Absent:	Kathleen McAdaragh-Hain, Dr. Lee Kallenbach and Shari Schwartz.

APPROVAL OF MINUTES:

Dr. Rowe made the following corrections to the minutes of June 22, 1995:

Page 7 - Third Paragraph:

Add: ". . . including Russia. The ANSI standards do not account for a level of acceptability for a thermal effect."

Page 9 - Fourth Paragraph, second line:

Insert: ". . . what scientific articles the entire committee should be reading . . ."

MOTION by Bruckner, support by VanCreveld, that the minutes be approved as corrected.

Motion carried unanimously.

DISCUSSION OF PRELIMINARY CONCLUSIONS FROM LITERATURE:

Dr. Rowe commented that she was familiar with most of the information they received in the first packet. However, she found it interesting that the articles received in the second mailing indicated possible links to cancer.

Mr. Kurzeja inquired whether the committee should be looking at thermal affects on the skin or cellular disruption. He indicated that most of the one article talked about cellular disruption. He noted that most of the literature, on the American side, is aimed at buildable heat. The issue is what should this group look at or how should we study the affects to determine an appropriate ordinance.

Mr. Bills stated that as he reviewed the data he found the *Nextel* report and the *Microwave News* were fairly straightforward since they basically dealt with signal strength levels absorption to a certain extent. The other data was more of a political nature, in his opinion, suggesting that the federal government in the near future might be ready to step up and assume responsibility for the whole matter of legislating over cellular antennas sites leaving the location up the local municipalities. He was interested in hearing from the Monitoring Sub-Committee since he still was not sure what level of signals in the field they should be considering here.

Mr. Vosko commented that all of these last studies on the cellular components for the cells seem to indicate that there is some pathological relationship to the various affects, although at different levels. The articles also indicated that more study should be done because they are not indicative of what might be found in humans. However, on the base levels it is assumed there would be affects to human tissue, cells, etc. He wanted to know how this data equates with what the group needs to address if the conclusion drawn by these articles is saying that there are some affects but no one is sure what they are yet. Also, what is the group looking at in terms of what they need to deal with because if a determination needs to be made on what frequency level is appropriate, what numbers of towers are safe, etc., then this data just supports the fact that there are affects. Mr. Vosko also pointed out that local governments soon may be regulated out of its authority over this matter particularly if the ANSI standards are adopted federally. The City will need to be prepared for this in the event it becomes a reality.

Dr. Liboff noted there are indeed biological affects from microwave frequencies but it depends upon the intensity. The real problem is the same one that was present 20 years ago, namely, there is a continuing dispute as to whether the physiological affects only occur when tissue is heated.

Further discussion ensued regarding the data given to the group to study in relation to what standard should be considered as a safe level from radio frequencies. The data indicated that on a cellular level there are affects from radio frequencies. It was also noted that some of the studies reflected levels below the ANSI standards but that the ANSI standards do not address

CITY OF FARMINGTON HILLS
AD HOC CELLULAR TOWER STUDY COMMITTEE
AUGUST 31, 1995

3

non-thermal affects. Dr. Liboff pointed out that Dr. Cleary works at both thermal and non-thermal levels so some of his results are at non-thermal levels. Dr. Rowe suggested that possibly other communities should be surveyed to see how they addressed this issue, i.e., what levels they used for their standards, etc.

Discussion was held on the readings that were taken by the monitoring group. Mr. Lord did not have the report but indicated that he would get a copy of it to the group.

Discussion followed relative to the Monitoring Sub-Committee. Mr. Vosko suggested electing a chair for this sub-committee so some dates for future readings can be selected. The dates of September 19th or 21st were suggested with the readings to be taken during the peak hour of the day. It was also suggested this meeting could be considered as a prototype visit to see how the measurements/monitoring should be set up as well as what kind of independent determination can be made for further readings. Mercy Center and Warner Middle School were both suggested as possible prototype sites for the first visit.

Mr. Lord distributed a copy of a measurement campaign that was developed for a cell site in 1992 which detailed how the site was chosen, how the measurements were taken, how often, etc.

After further discussion, the group decided to meet on September 19th at 5:00 p.m. in the parking lot of the Warner Middle School.

MOTION by Vosko, support by Bills, that the Committee appoint Mike Lord to serve as the chair of the Monitoring Sub-Committee (Bills, Costick, Dilley, Liepa, Lord, Vosko).

Motion carried unanimously.

Mr. Lord briefly commented on the Cellular One Farmington Hills Site Information spreadsheet (distributed to the group in a packet of information) that indicated the site location, antenna height and type, power, ERP, number of channels, and highest frequency.

Further clarifying discussion followed Mr. Lord's comments relative to the spreadsheet.

Dr. Liboff made some precautionary remarks with regard to the measurements and questions that were being raised. He felt they appeared to be bearing mainly on the question of intensity. However, in terms of the literature and things that are being seen at non-thermal levels they very often have little bearing on intensity. He mentioned the research that was done back in 1975 and it has been understood since then that profound changes can be had in the way an RF beam affects tissue if it is modulated at low frequencies, i.e. 16 hertz. He commented on his visit to a laboratory in Russia last May where they were looking at 900 MHz and modulating microwave beams to determine the affects on brain tissue. The point is that somehow modulation affect the

way these interactions to tissue occur. He cautioned the group against thinking that if you just look at intensity you get a picture that is complete. The type of modulation the cellular phone people are employing is not the 16 or 30 hertz type oscillations but still it is conceivable there could be local affects which do modulate these signals at very low frequencies. Some of the problems, he felt, occur at non-thermal energies would be traced to these very low modulation affects.

PRESENTATION BY NEXTEL COMMUNICATIONS ON ENHANCE SPECIALIZED MOBILE RADIO (ESMR):

Representatives Jerry Bauer and Don Gates were present representing Nextel Communications.

Mr. Bauer presented some background information on the company. He explained that prior to the moratorium on towers they were negotiating with the City to co-locate on the DPW tower at Halsted and the I-696 expressway They were here tonight to share their plans with the group and seek their input on them.

Mr. Brock commented on the City's position with regard to this situation and indicated that if the committee approved this installation then the Council would allow Nextel to proceed with it. Currently, both Ameritech and Cellular lease space on the DPW tower.

Clarifying discussion followed regarding the customers serviced by Nextel, the number of channels that would be installed on the tower, the frequency range, and the location of the nearest residential area.

Mr. Gates, responding to Ms. VanCreveld's inquiry, explained that Nextel has 84 sites in the State of Michigan and about 26 sites throughout Oakland County. The company, however, does not have adequate coverage in Farmington Hills. He also noted that they do not have the broad band ability like the other cellular companies. Mr. Gates said he would provide the group with a listing of its 26 locations in Oakland County.

Discussion ensued on the potential health risks to the residents.

Further discussion followed, and it was the general consensus of the committee to table this matter until more complete information can be submitted to the group for its consideration.

REPORTS BY TECHNICAL AND MONITORING SUB-COMMITTEES:

Dr. Rowe reported that the sub-committee did not meet as a group but she did mail out some articles of interest. Some of these same articles have been seen by the rest of the group.